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10/517,483	12/10/2004	Wittich Kaule	2732-150	6823
6449 7590 10/28/2008 ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005				
EXAMINER LAVARIAS, ARNEL C				
ART UNIT 2872		PAPER NUMBER		
NOTIFICATION DATE 10/28/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

# Office Action Summary

**Application No.**

10/517,483

**Applicant(s)**

KAULE, WITTICH

**Examiner**

Amel C. Lavarias

**Art Unit**

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/15/08, 4/27/05, 12/10/04.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-69 is/are pending in the application.  
4a) Of the above claim(s) 7-50, 54, 57, 60, 64, 66, 67 and 69 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 51-53, 55, 56, 58, 59, 61-63, 65 and 68 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 12 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/27/05  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Invention IA (Claims 2-6) in the reply filed on 9/15/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 7-50, 54, 57, 60, 64, 66-67, 69 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/15/08.

### ***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

4. The originally filed drawings were received on 12/10/04. These drawings are objected to for the following reason(s) as set forth below.
5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:  
Figure 3A- Reference characters A and B.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. *It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.*

7. The abstract of the disclosure is objected to because of the following informalities:

Abstract; line 1- 'The invention relates to a' should read 'A'.

Correction is required. See MPEP § 608.01(b).

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

9. Claims 1-6, 51-53, 55-56, 58-59, 61-63, 65, 68 are objected to because of the following informalities:

Claim 1 recites the limitation "the grating elements" in line 7. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, this limitation has been interpreted to mean 'the at least one grating element'. Claims 2-6, 51-53, 55-56, 58-59, 61-63, 65, 68 are dependent on Claim 1, and hence inherit the deficiencies of Claim 1.

Claim 2 recites the limitation "the grating elements" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, these limitations have been interpreted to mean 'the at least one grating element'.

Claim 3 recites the limitations "the data record", "the coordinates", "the starting points and end points", and "the grating element" in lines 1-3. There is insufficient antecedent basis for these limitations in the claim.

Claim 5 recites the limitations "the data record", "the coordinates", "the form", and "the grating elements" in lines 1-3. There is insufficient antecedent basis for these limitations in the claim.

Claim 6 recites the limitations "the help" and "the coordinates" in line 2. There is insufficient antecedent basis for these limitations in the claim.

Regarding Claim 6, the phrase "can be" renders the claim problematic because it is not certain whether the limitations following the phrase are part of the claimed invention.

See MPEP § 2173.05(d).

Claim 58, line 1; Claim 61, line 1- 'a security element' should read 'the security element'

Claim 62, line 1- 'a security paper' should read 'the security paper'.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-2, 51-53, 55-56, 58-59, 61-63, 65, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (JP 09-230122A), of record.

Takahashi discloses a method (See for example Abstract; Figures 1-2) for producing a grating image (See for example 14, 16, 18 in Figures 1-2), which at least has one grating field (See for example 16 in Figures 1-2, 5-6) with visually recognizable, optically variable properties, in which grating elements (See for example 18 in Figure 2) are disposed, that are produced by means of a writing apparatus (See for example Figure 1), the method comprising the following steps: a) determining at least one grating element,

which completely lies within one working field (See for example 18 in Figure 2; Paragraphs 0009-0013); b) defining a sequence of working fields (See various dots/pixels 16 in Figures 2, 5-6), in which the at least one grating element is to be produced continuously without interruption along their entire length by means of the writing apparatus (It is noted that within each dot/pixel 16, the grating elements 18 are produced continuously without interruption along their entire length inside the dot/pixel); c) moving to the working fields by relative movement of a carrier (See for example 20 in Figure 2), on which is located a substrate (See for example 14 in Figure 2) to be inscribed, and the writing apparatus; d) writing the at least one grating element into the substrate with the writing apparatus within the respective working fields (See Figures 1-2). Takahashi additionally discloses that the determination of the at least one grating element in step a) is effected with the help of a data record (See for example Paragraphs 0007-0010, wherein dot data and image data are utilized), which contains information about form and position of the grating elements forming the grating field; an apparatus for carrying out the above method (See for example Claim 1); a grating image produced according to the above method (See for example 14, 16, 18 in Figure 2); a security element with at least one grating image produced according to the above method (See for example 14, 16, 18 in Figure 2), wherein the security element may be a security thread, a label or a transfer element (See for example 14, 16, 18 in Figure 2); a security paper with at least one grating image produced according to the method above (See for example 14, 16, 18 in Figure 2); a security document with at least one grating image produced according to the above method (See for example 14, 16, 18 in Figure 2); a transfer

material, with at least one grating image, produced according to the method above (See for example 14, 16, 18 in Figure 2); and an embossing tool with at least one grating image, produced according to the method above (See for example 14, 16, 18 in Figure 2).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3-6, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Jackson et al. (U.S. Patent No. 5335113).

Takahashi discloses the invention as set forth above in Claims 1-2, but does not explicitly disclose the data record containing coordinates of starting, end, or intermediate points or of Bezier curves, such that the at least one grating element is continuously produced in one writing operation. However, the use of coordinate values to represent lines and curves is known in the art. For example, Jackson et al. teaches a conventional method for producing a diffractive grating structure (See for example Abstract; Figures 11-12), wherein a diffractive image is converted into computerized data by transforming the diffractive elements of the image into coordinate information (See for example col. 1, line 47-col. 2, line 28; col. 4, line 44-col. 6, line 35). Such data would necessarily include starting, ending, and intermediary coordinate points as needed to describe each of the diffractive elements of the image. The computerized data is then input to a computer



system attached to an electron beam lithography system modified for line writing operations (See for example col. 6, lines 52-59). Though the specific use of Bezier curves is not specifically disclosed, such would have been another apparent way to one having ordinary skill in the art to parameterize the grating element lines into coordinate data. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the data record in the method of Takahashi, contain coordinates of starting, end, or intermediate points or of Bezier curves, such that the at least one grating element is continuously produced in one writing operation, as taught by Jackson et al., for the purpose of providing a diffractive image having diffractive elements which are more structurally stable and more easily replicated using the electron beam lithographic writing technique, thus minimizing degradation of the expected viewed image of the diffractive image.

14. Claim 68, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Lee (WO 91/03747 A1).

Takahashi discloses the invention as set forth above in Claims 1, 63, except for the transfer material comprising hot stamping foil. However, Lee teaches a conventional method for forming a diffractive structure (See for example Abstract; Pages 8-9), wherein a hot embossing process utilizing a gold coated nickel master of the diffractive structure and hot stamping foil of aluminum and plastic coated films (See Page 9). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the transfer material comprise hot stamping foil, as taught by Lee, in the

method of Takahashi, to allow for inexpensive, high quality replicas of the diffractive structures to be fabricated from the master embossing die.

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 10:00 AM - 6:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias  
Primary Examiner  
Group Art Unit 2872  
10/16/08

/Arnel C. Lavarias/  
Primary Examiner, Art Unit 2872